

Appl. No. : 10/694,198
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REMARKS

Claims 1-12 are pending in the application. Claims 10-12 stand withdrawn. Claims 1 through 9 stand rejected. Thus, Claims 1-9 are presented for examination in view of the amendments and the following remarks.

Rejections under 35 U.S.C. § 102(e) and 103(a) based upon MacFarlane (U.S. Patent No. 6,672,157)

The Examiner rejected independent Claim 1 as being unpatentable over U.S. Patent No. 6,672,157 to MacFarlane. The Examiner rejected dependent Claims 2-9 as being unpatentable over combinations of MacFarlane, U.S. Patent No. 4,846,466 to Stima, III, U.S. Patent No. 4,730,829 to Carlson, and U.S. Patent No. 6,231,481 to Brock. The Office Action appears to be relying upon a combination of the testing performed with the isotonic machine/power tester 10 (col. 11 line 13 to col. 12, line 11) and the test results from the summary (col. 10, line 50-57) to reject Claim 1. Applicant respectfully traverses the grounds for rejections.

MacFarlane discloses a portable power tester 10 for determining muscular power (Figures 4 and 5). The Office Action identified MacFarlane's description of Example 1 to support the rejection. However, the power tester 10 described in Example 1 does not "mov[e] an engagement assembly coupled to the resistance element at a highest achievable velocity through an exercise stroke" and "determine[e] a maximum power for the muscle group."

Example 1 from MacFarlane (col. 10, line 37 – col. 13, line 2) provides a comparison between power measurements for test subjects that used an isokinetic machine (col. 10 line 66 to col. 11, line 12), a vertical jump machine (col. 12 line 58 to col. 13, line 2), and an isotonic machine (col. 11 line 13 to col. 12, line 11). Each of the three machines was used to separately determine a power for each subject. The power measurements were then compared in a summary (col. 10, line 50 to col. 10, line 65).

The power tester 10 was employed with the vertical jump machine and also with the isotonic machine. The power tester 10 was not used with the isokinetic machine since the isokinetic machine already includes a dynamometer. An isokinetic machine allows the muscle to contract and shorten at a constant speed. The dynamometer of the isokinetic machine detects when the muscle is speeding up and increases the load to slow it down to the prescribed speed.

Appl. No. : **10/694,198**
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When used with an isotonic machine or a vertical jump machine, the power tester 10 acts like a dynamometer.

The isotonic testing described in column 11 does not identify a maximum velocity at which the maximum power is achieved for a muscle group. McFarlane states, "For each resistance (60, 70, 80% 1Repetition Maximum), the right leg was tested three times then the left leg was tested three times." (emphasis added). "The reaction time was recorded along with the movement time and the power." (col. 11, lines 56-64). While the velocity of one of the three repetitions at each resistance level may be higher than the other two, it likely will not be "a highest achievable velocity" for that resistance level as recited in Claim 1 since McFarlane does not mention measuring a maximum value or appreciate the advantage of measuring such a value.

As explained in Applicant's specification and illustrated in Figure 11, the described method can be advantageously used to determine the resistance level and velocity where a person has the greatest power. Figure 11 shows four continuous graphs with each graph representing plots of discrete data points. The data points are interconnected with straight lines to enable the data to be more easily visualized. The graphs in Figure 11 are based on data measured in increments of 5 pounds (approximately 22 newtons) in the force applied to each arm.

In general, the velocity graphs 1110, 1120 show that the maximum velocities occur at very low forces. In general, the power graphs 1130, 1140 start at relatively low values at the lower resistance levels. Since the amount of force is very low, the power is low. As the resistance level increases, the power increases generally steadily until the power reaches a maximum magnitude. As the resistance level continues to increase, the velocity continues to decrease and the power also decreases. Generally, the maximum power for the muscle group is not achieved at very low forces or very high forces but somewhere between the two. Applicant's Claim 1, not MacFarlane, can be used to identify the velocity and force that corresponds to the maximum power.

From the graphs in Applicant's Figure 11, it can also be seen that the power reaches a maximum magnitude for different forces and velocities for the user's left arm and the user's right arm for the illustrated measurement sequence. A conditioning program can be developed to improve the symmetry of the user by tailoring the program based on the power differences between the left and right arms.

Appl. No. : **10/694,198**
Filed : **October 27, 2003**

The described method can also be used to tailor exercises so that the maximum power is achieved at levels ideally suited for a particular activity. For example, certain athletic activities, such as competitive weight lifting, require maximum power at high levels of force while maintaining a moderate velocity at those levels. On the other hand, other athletic activities, such as for example, throwing baseballs, require maximum power at much higher velocities without requiring high levels of force. In between, activities, such as putting the shot, require maximum power at higher levels of force than throwing baseballs while maintaining a relatively high velocity.

The described method can also be used to gather data to develop graphs of the power of successful athletes and persons in other professions requiring physical ability to determine the resistance levels where such athletes and other persons produce the most power. This information can be advantageously used to evaluate aspiring athletes and other persons to determine how they compare to the anticipated power requirements for their activities. Armed with the information thus obtained, the person can develop a training program to properly condition the muscles to obtain the desired results.

Thus, while isotonic testing with the power tester 10 of McFarlane measures time and distance to calculate velocity for each of the nine repetitions of a single leg, nowhere does McFarlane mention performing anything else but three repetitions at each resistance level or achieving a highest achievable velocity. Three repetitions would not achieve a highest achievable velocity as recited in Applicant's Claim 1.

Further, the "maximum measured power tester 10 power" described in the summary for all three machines (col. 10, line 50 to col. 10, line 65) can not be "a maximum power for the muscle group" as recited in Claim 1 since the three repetitions performed at each of the three resistance levels do not achieve "a highest achievable velocity." One can determine from MacFarlane's data which of the three or nine repetitions performed by a test subject results in the highest power value, but that power value is not "a maximum power for the muscle group". Rather, MacFarlane's highest power value is merely the highest value of the three or nine repetitions. The highest value from the three or nine repetitions is not the same as a maximum power for a muscle group since the speeds in MacFarlane may or may not include the maximum power level. Nowhere does MacFarlane describe "moving an engagement assembly coupled to the resistance element at a highest achievable velocity through an exercise stroke" and "determining a

Appl. No. : **10/694,198**
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maximum power for the muscle group.” At least these elements are not disclosed in MacFarlane or the prior art of record.

Claims 2-9 depend directly or indirectly from Claim 1 and, thus, are patentable for at least the same reasons that the claim from which they depend is patentable over the applied art. Therefore, allowance of Claims 1-9 is respectfully requested.

No Disclaimers or Disavowals

Although the present communication may include alterations to the application or claims, or characterizations of claim scope or referenced art, the Applicant is not conceding in this application that previously pending claims are not patentable over the cited references. Rather, any alterations or characterizations are being made to facilitate expeditious prosecution of this application. The Applicant reserves the right to pursue at a later date any previously pending or other broader or narrower claims that capture any subject matter supported by the present disclosure, including subject matter found to be specifically disclaimed herein or by any prior prosecution. Accordingly, reviewers of this or any child or related prosecution history shall not reasonably infer that the Applicant has made any disclaimers or disavowals of any subject matter supported by the present application.

CONCLUSION

For the foregoing reasons, it is respectfully submitted that the rejections set forth in the outstanding Office Action are inapplicable to the present claims. Accordingly, early issuance of a Notice of Allowance is most earnestly solicited.

Any remarks in support of patentability of one claim should not be imputed to any other claim, even if similar terminology is used. Additionally, any remarks referring to only a portion of a claim should not be understood to base patentability on solely that portion; rather, patentability must rest on each claim taken as a whole. Applicants have not presented arguments concerning whether the applied references can be properly combined in view of the clearly missing elements noted above, and Applicants reserve the right to later contest whether a proper motivation and suggestion exists to combine these references.

The undersigned has made a good faith effort to respond to all of the rejections in the case and to place the claims in condition for immediate allowance. Nevertheless, if any undeveloped

Appl. No. : **10/694,198**
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issues remain or if any issues require clarification, the Examiner is respectfully requested to call Applicants' attorney in order to resolve such issue promptly.

Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

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